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A revision of *Nyctemera consobrina* (HOPFFER, 1874) with redescriptions of three subspecies (Lepidoptera: Arctiidae, Nyctemerinae)

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Abstract: *Nyctemera consobrina* (HOPFFER, 1874), an Arctiid species from Sulawesi and Flores, is revised. Three subspecies are recognised, *N. consobrina consobrina* (HOPFFER, 1874), *N. consobrina delocyma* (SWINHOE, 1917) and *N. consobrina basinigra* NIEUWENHUIS, 1948. *Deilemera everetti* SWINHOE, 1917 is synonymized with *N. consobrina delocyma.* A redescription of all subspecies is given and a map of their distribution is presented.

Eine Revision und Redeskription der drei Unterarten von *Nyctemera consobrina* (HOPFFER 1874) (Lepidoptera: Arctiidae, Nyctemerinae)

Zusammenfassung: Der Komplex von *Nyctemera consobrina* (HOPFFER 1874), eine Arctiide: Nyctemerine von Sulawesi und Flores, wird revidiert. Drei Unterarten werden anerkannt: *N. consobrina consobrina* (HOPFFER 1874) von Nord-Celebes (Sulawesi Utara) (Minahassa), *N. consobrina delocyma* (SWINHOE 1917) von Zentral- und Südwest-Celebes (Sulawesi Tengah und barat daya) und Flores sowie *N. consobrina basinigra* NIEUWENHUIS 1948 vom Banggai-Archipel und aus Südost-Sulawesi. *Deilemera everetti* SWINHOE 1917 wird neues Synonym von *N. consobrina delocyma.* Alle Unterarten werden beschrieben, eine Verbreitungskarte wird gegeben.

Revisi *Nyctemera consobrina* (HOPFFER, 1874) dengan deskripsi baru dari tiga subspecies (Lepidoptera: Arctiidae, Nyctemerinae)

Ringkasan: Dalam karangan ini *Nyctemera consobrina* (HOPFFER, 1874) ditinjau kembali. Tiga subspecies diakui: *Nyctemera consobrina consobrina* (HOPFFER, 1874) dari Minahassa (Sulawesi utara), *N. consobrina delocyma* (SWINHOE, 1917), dari Sulawesi tengah dan barat daya dan dari Flores dan *N. consobrina basinigra* NIEUWENHUIS, 1948, dari Sulawesi tenggara dan pulau-pulau Banggai. *Deilemera everetti* SWINHOE, 1917 dinyatakan sinonim dari *N. consobrina delocyma.* Dari semua subspecies diberikan deskripsi yang baru, disertai dengan peta distribusinya.

Nyctemera HÜBNER, [1820] is a large and heterogenous genus with many species in Asia and a few in Africa. Its taxonomy is very complex. The black and white colour-pattern on the wings, generally used for the de-

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termination of the species, appears no longer valid as the only decisive factor since many species of various genera tend to be similar as a result of mimicry. Study of the genitalia has shown that the subfamily Nyctemerinae is in a taxonomic mess and needs a thorough revision. The high number of species is striking, especially in South-East Asia.

The innumerable islands in this region led to the forming of a great number of (sub-)species and island-forms. In this paper the species *Nyctemera consobrina* (HOPFFER, 1874) is revised. The sexual dimorphism and local forms of this species are confusing and have resulted in the description of several "species", which are in fact subspecies or individual forms. *Nyctemera consobrina* is distributed mainly on Sulawesi but is also known from one of the Banggai Islands and from Flores. The genitalia of the three subspecies recognised here, show hardly any variation. Material examined is deposited in the following institutions: Natural History Museum, London (formerly British Museum (Natural History); BMNH), National Natural History Museum, Leiden (NNML), and Zoological Museum, Amsterdam (ZMA).

Nyctemera consobrina consobrina (HOPFFER, 1874)

Leptosoma consobrina HOPFFER (1874: 45). Holotype ♀, Gorontalo, Minahassa (Museum of Berlin, type not seen).

Leptosoma acceptum SWINHOE (1892: 143). Holotype ♀, labeled with "Mindanao, Celebes" (error, this must be Minahassa, probably Manado) (not in BMNH, probably in Oxford Museum, type not seen).

Nyctemera inconstans KIRBY (1892: 421) (nec VOLLENHOVEN 1863) (in part).

Nyctemera acceptum SWINHOE; PAGENSTECHER (1901: 115).

Nyctemera consobrina HOPFFER; PAGENSTECHER (1901: 114).

Deilemera (Tripheromera) accepta SWINHOE; SWINHOE (1903: 79).

Deilemera (Tripheromera) latistriga SWINHOE (1903: 78) (nec WALKER 1854) (in part).

Nyctemera accepta SWINHOE; SEITZ (1915: 272).

Nyctemera consobrina HOPFFER; SEITZ (1915: 270).

Nyctemera acceptum SWINHOE; BRYK (1937: 49).

Nyctemera consobrina HOPFFER; BRYK (1937: 60).

Nyctemera consobrina HOPFFER; ROEPKE (1957: 172).

Material examined (n = 84):

N. Celebes, Minahassa, R. K. Missie, 1 ♂, 1 ♀, NNML;

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Dumoga-Bone N. P., Gn. Mogogonipa 900–1008 m, 0°27′ N, 123°57′ E, multistr. evergreen forest, moss forest. Project Wallace, Indonesia, N. Sulawesi, 20.–23. v. 1985, at light, R. DE JONG, 33 ♂♂, 13 ♀♀, NNML;

Dumoga-Bone N. P., Clark's camp 1000–1140 m, 0°37′ N, 123°51′ E, multistr. evergreen forest, monsoon forest, Project Wallace, Indonesia, N. Sulawesi, 9.–15. v. 1985 at light, R. DE JONG, 4 ♂♂, 2 ♀♀, NNML;

Gn. Muajat 1700–1780 m, 0°45′ N, 124°25′ E, multistr. evergr. forest, many *Pandanus*, Project Wallace, Indonesia, N. Sulawesi, 30. v.–2. VI. 1985 at light, R. DE JONG, 2 ♂♂, 1 ♀, NNML;

Danau Mooat 1000–1100 m, 0°44′ N, 124°27′ E, cultivations, road side, Project Wallace, Indonesia, N. Sulawesi, 28. v.–3. VI. 1985 at light, R. DE JONG, 3 ♀♀, NNML;

Tondano (N. Celebes), 1927, W. VAN VELDHOVEN, "*Nyctemera consobrina* HOPF.", W. ROEPKE det. 1956, 1 ♀, NNML;

N. Celebes, Minahassa, Tonggari ± 600 m, IX. 1947, 1 ♀, NNML;

N. Celebes, Menado, 1892, "var. *Acceptum* SWH.", 1 ♀, NNML;

N. Celebes, Bolaang-Mongondou, Modajag, 14. VIII. 1917, W. KANDERY, "*Nyctemera accepta* SWINH.", 1 ♀, NNML;

"Noord Nieuw-Guinea", V. D. BERGH, 1929, "*Nyctemera consobrina* HPFF.", W. ROEPKE det. 1956, 1 ♂, NNML [very likely mislabeled, see text];

Indonesia, Sulawesi Utara, gardens PPA resthouse, at light, Danau Moaat, E. of Kotamobagu, 1080 m, 4.–6. X. 1985, M. R. DE JONG, 2 ♂♂, ZMA;

Celebes, Minahassa, 1920, coll. V. D. BERGH, "*Nyct. accepta* SWINH.", 1 ♂, ZMA;

Minahassa, 6 ♀♀, ZMA;

Minahassa, 1920, 2 ♀♀, ZMA;

Celebes, Minahassa 19..[?], "*Nyct. accepta* SWINH./*Nyctemera consobrina* HPFF.", W. ROEPKE det. 1956, 1 ♀, ZMA;

Celebes, Minahassa 1920, "*Nyct. accepta* SWINH.", 3 ♀♀, ZMA;

Indonesia, Sulawesi Utara, lower montane rainforest at light, Gn. Muajat 1780 m, 8.–9 X. 1985, M. R. DE JONG, 1 ♀, ZMA;

[in BMNH 3 specimens from northern Sulawesi present, 1 ♂ and 2 ♀♀, no label details noted].

Description

Imago (figs. 3–4).

Abdomen yellow with dark brown bands on each segment. Well developed white pattern on dark brown wings. A broad basal streak on upperside of the forewing, almost entirely filling the space between vein 1 and 2, sometimes even touching transversal band. The transversal band is composed of eight white blotches, the longest about 5 mm or more in length, interrupted by very narrow dark brown vein-stripes, sometimes these vein-stripes are not visible. Transversal band not reaching costa or dorsum. Dark brown marginal band of hindwing narrow (2–5 mm), with

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characteristic "*Nyctemera*-tooth" on vein 2. Base of the hindwing hardly darkened. Underside of both wings identical to upperside.

Variability

Some females from Gunung Muajat (Sulawesi Utara) differ in pattern of wings. White pattern on both wingpairs extremely expanded (fig. 4b). Transversal band in these specimens not interrupted by dark veins. Between vein 1 and dorsum a small ninth blotch is present, though not touching the dorsum itself. The broadest blotch is about 8 mm. The basal streak hardly expanded and almost identical to the typical form of *consobrina*. Marginal band of hindwing very narrow (1-2.5 mm). Because most of the other specimens from this locality show the typical appearance, I consider it to be a local form.

Male genitalia (fig. 1a-c).

Uncus finger-shaped with a claw-shaped apex (fig. 1a). Saccus short and blunt. Valva with two protuberances (fig. 1b). Cucullus forming a long extension of the costa, slightly bending inwards, protuberance on sacculus twice as broad as cucullus and slightly bending towards cucullus; resembling the claw of a lobster. Minor variations occur in the dentation of the sacculus. Aedeagus (fig. 1c) slender, downcurved towards trumpet-shaped apex.

Female genitalia (fig. 2a-c).

Ostium bursae short funnel-shaped. Bursa with two signa: a star-shaped one just at the entrance of bursa, and a boat-shaped one, completely dentated at the convex side of the signum (fig. 2c). Signa both somewhat variable in shape. The star-shaped signum more or less round with about 6-8 teeth; the boat-shaped signum sometimes bearing an extension of very slender chitinous parts. Three variations of both types of signa are shown in fig. 2c. Examined genitalia of males as well of females show hardly any variation between this subspecies and the two subspecies described below.

Distribution (fig. 9)

Nyctemera consobrina consobrina is restricted to the eastern part of the Minahassa Peninsula (Sulawesi Utara). Its occurence in the western part of Minahassa is unknown to me. Labels of some old material only mention "Minahassa" as locality, but these presumably refer to the sur-

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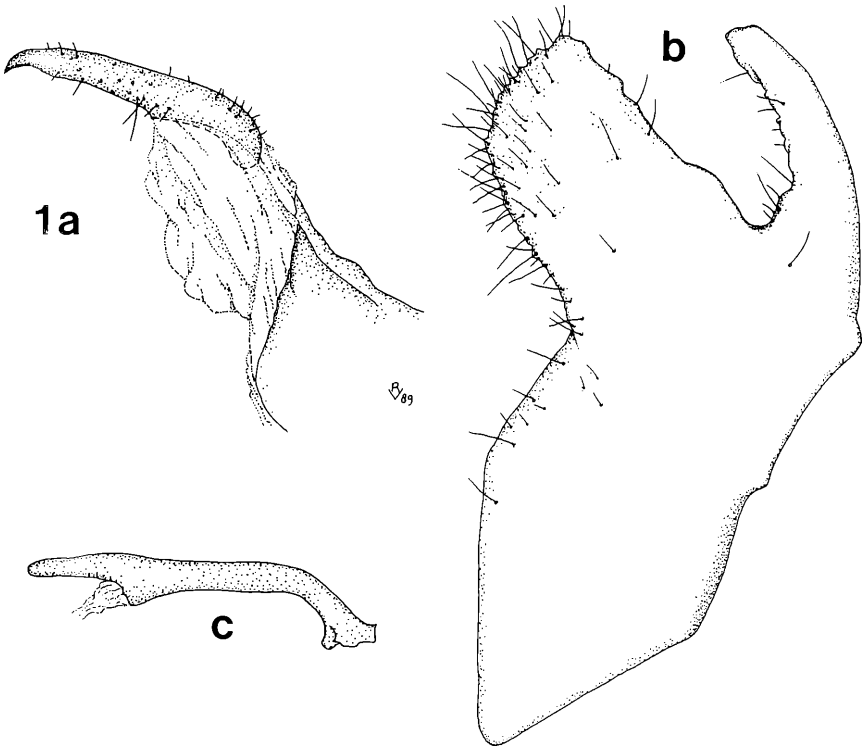

Figs. 1a–c: Male genitalia of *Nyctemera consobrina*. **Fig. 1a:** uncus. **Fig. 1b:** right valva, outer side. Fig. 1c: aedeagus (after prep. RV 277).

roundings of Manado or Tondano in north-eastern Minahassa, the most frequently visited sites of that time. One specimen in NNML is labeled "Noord Nieuw-Guinea" (North New Guinea) by VAN DEN BERGH in 1929, but unfortunately this is not reliable. ROEPKE (1957) stated that VAN DEN BERGH was seriously ill during this period and sometimes confounded prelabeled paper-triangles. ROTHSCHILD (1920) mentioned a male and female from Siolak Daras (Korinchi Peak, Sumatra) but presumably these are wrong identified. They probably belong to *N. herklotsii* (SNELLEN VAN VOLLENHOVEN, 1863). Unfortunately these specimens could not be traced again in the BMNH collection.

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Nyctemera consobrina delocyma (Swinhoe, 1917)

Deilemera (Tripheromera) delocyma Swinhoe (1917a: 415). Holotype ♂, Flores, Everett, "*Deilemera delocyma* ♂", Swinhoe type, Type (BMNH).

Deilemera everetti Swinhoe (1917b: 160); Holotype ♀ (mislabeled as male), Type, 2970. ♂, Flores, Everett, "*Deilemera everetti* ♂ Swinhoe type, = *simulatrix* Wlk.", Swinhoe coll. Brit. Mus. 1920-239 (BMNH). **syn. nov.**

Nyctemera delocyma Swinhoe; Bryk (1937: 61).

Nyctemera everetti Swinhoe; Bryk (1937: 62).

Nyctemera delocyma delocyma Swinhoe; Roepke (1954: 260).

Nyctemera everetti everetti Swinhoe; Roepke (1954: 260).

Material examined (n = 132):

M. Celebes, Todjamboe, 12. vii. 1936, 900 m, Toxopeus, "*Nyctemera consobrina immaculata* Rpke. i.l.", W. Roepke det. 1956, 1 ♀, NNML;

M. ZW. Celebes, Malino, onderafdeling Goa 1100 m, vi. 1938, Kalis, "*Nyctemera consobrina* Hpff.", W. Roepke det. 1956, 2 ♂♂, 1 ♀, "(f. *immaculata*)", NNML;

Celebes, Makassar, "*obtusa* Wlk./*angulata* Seitz?", 1 ♂, NNML;

Z. Celebes, Para Salamakki, G. Lompobatang 60 m, 3. vii. 1936, Toxopeus, "*Nyctemera consobrina* f. *immaculata* Rpke.", W. Roepke det. 1956, 1 ♀, NNML;

Z. Celebes, Para Salamakki, G. Lompobatang 1600 m, 3. vii. 1936, Toxopeus, "*Nyctemera consobrina* f. *immaculata* Rpke. m.s.", W. Roepke det. 1956, 1 ♀, NNML;

M. ZW. Celebes, G. Lompbattang, Parang-bobo-Goa 1500 m, v. 1938, Kalis, "*Nyctemera consobrina* f. *immaculata* Rpke.", W. Roepke det. 1956, 1 ♀, NNML;

Celebes, Lokka, "*Nyctemera consobrina* f. *immaculata*", W. Roepke det. 1956, 1 ♀, NNML;

Z. W. Celebes, Malino-Goa 1500 m, vi. 1938, coll. J. M. A. van Groenendael, 1 ♂, ZMA;

Z. W. Celebes, Malino-Goa 1100 m, vi. 1938, coll. J. M. A. van Groenendael, 4 ♂♂, 9 ♀♀, ZMA;

Z. W. Celebes, Parang-bobo-Goa, mt. Lompobatang 2000 m, v. 1938, coll. J. M. A. van Groenendael, 1 ♂, ZMA;

Z. W. Celebes, Parang-bobo-Goa, mt. Lompobatang 1500 m, v. 1938, coll. J. M. A. van Groenendael, 1 ♀, ZMA;

Z. W. Celebes, Malino-Goa 2700', vi. 1938, coll. J. M. A. van Groenendael, 1 ♂, ZMA;

W. Celebes, Kulawi-Palu 3100', iii. 1937, coll. J. M. A. van Groenendael, 4 ♂♂, 2 ♀♀, ZMA;

Celebes, Posso, 1913, "*Nyct. accepta/Nyctemera consobrina* Hpff.", W. Roepke det. 1956, 1 ♂, ZMA;

W. Celebes, Sidaonta, Palu 4500', vii. 1937, "*Nyctemera accepta*", coll. J. M. A. van Groenendael, 2 ♂♂, ZMA;

Indonesia, Sulawesi Tengah, Lore Lindu N.P., Stat. 52, margin secondary forest, ML-light, Dongi Dongi 950 m, 90 km SE Palu, 23. iii. 1985, J. P. & M. J. Duffels, 1 ♂, ZMA;

Indonesia, Sulawesi Selatan, Stat. 58 gardens, ML-light, Malino 1000 m, 60 km E Ujung Pandang, 31. iii. 1985, J. P. & M. J. Duffels, 1 ♀, ZMA;

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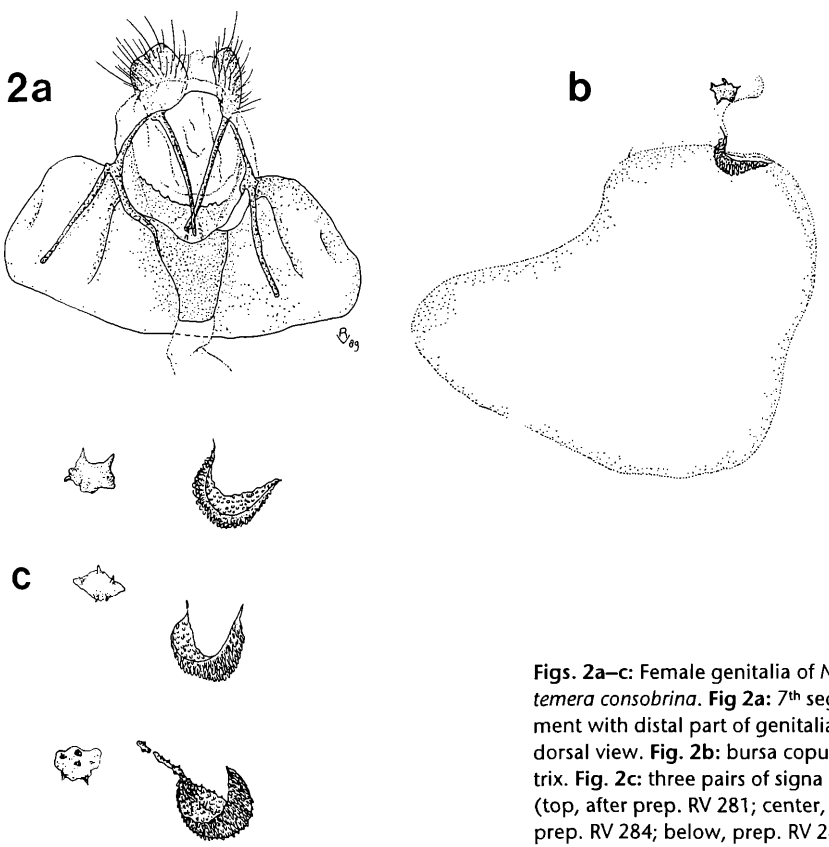
Z. W. Celebes, Bonthain, VIII. 1938, coll. J. M. A. VAN GROENENDAEL, 1 ♀, ZMA;
Ned. Indië, W. Celebes, Loda Paloe, 1300 m, IV. 1937, J. M. A. v. GROENENDAEL, 1 ♂, ZMA;
Ned. Indië, W. Celebes, Lindoe Paloe, 1200 m, IV. 1937, J. M. A. v. GROENENDAEL, 2 ♂♂, 2 ♀♀, ZMA;
Allotype, 2970, ♀, Flores, EVERETT, "*Deilemera everetti* ♀ SWINHOE type", SWINHOE coll. Brit. Mus. 1920-239., 1 ♀, BMNH;
[in BMNH furthermore present: 66 ♂♂ and 21 ♀♀ from Central and southwestern Sulawesi and 1 ♀ from Flores (beside the 2 types of *everetti*), no label details noted].

Description

Male (fig. 5).

Abdomen and wing pattern of male very similar to *N. consobrina conso-*



Figs. 2a–c: Female genitalia of *Nyctemera consobrina*. **Fig 2a:** 7th segment with distal part of genitalia, dorsal view. **Fig. 2b:** bursa copulatrix. **Fig. 2c:** three pairs of signa (top, after prep. RV 281; center, prep. RV 284; below, prep. RV 285).

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brina (figs. 3 & 4a). The white pattern, however, less well developed and blotches smaller. Basal streak of forewing sometimes as large as in *consobrina consobrina,* but often narrower; not entirely filling the space between vein 1 and 2 and seldom touching the transversal band (like in fig. 5). Transversal band often narrower than in *consobrina consobrina,* consisting of seven or eight blotches, of which the largest about 4–6 mm. Transversal band scattered and more distinctly interrupted by dark brown veins. Marginal band on the hindwing broader than in *consobrina consobrina* (4–7 mm). Male with hardly any darkening at base of hindwing.

Female (fig. 6a).

Distinctly different from male and *consobrina consobrina.* Though some specimens have a very thin white stripe which may be a remnant of the basal streak, generally this streak is completely missing. Transversal band of forewing very similar as in male. Margin of hindwing sometimes almost twice as broad.

Variability.

This subspecies shows some variability of the wingpattern. The dark brown colour seems to be much more extended, reducing the transversal band to no more than a few small spots, in some specimens from Ujung Pandang (former Makassar), Sulawesi barat daya (fig. 6b). The margin of the hindwing is very broad in these specimens (6–8 mm) and the basal area is partly darkened with greybrown.

Remark.

The striking sexual dimorphism of this subspecies led to the description of two different species by SWINHOE (1917a, 1917b). The types of both taxa are from Flores and until now the male (*delocyma*) and female (*everetti*) were not recognised as conspecific. The subspecies *everetti* is thus a (junior) synonym of *delocyma.* ROEPKE (1957) stated that some females lack the basal streak and resemble *Nyctemera kala* (SWINHOE, 1892). He is not sure if these specimens concern *consobrina* or *kala* and for the moment he considered it to be a form for which he proposed the name *immaculata,* but in fact these are females of *delocyma.*

Male and female genitalia as described under *consobrina consobrina.*

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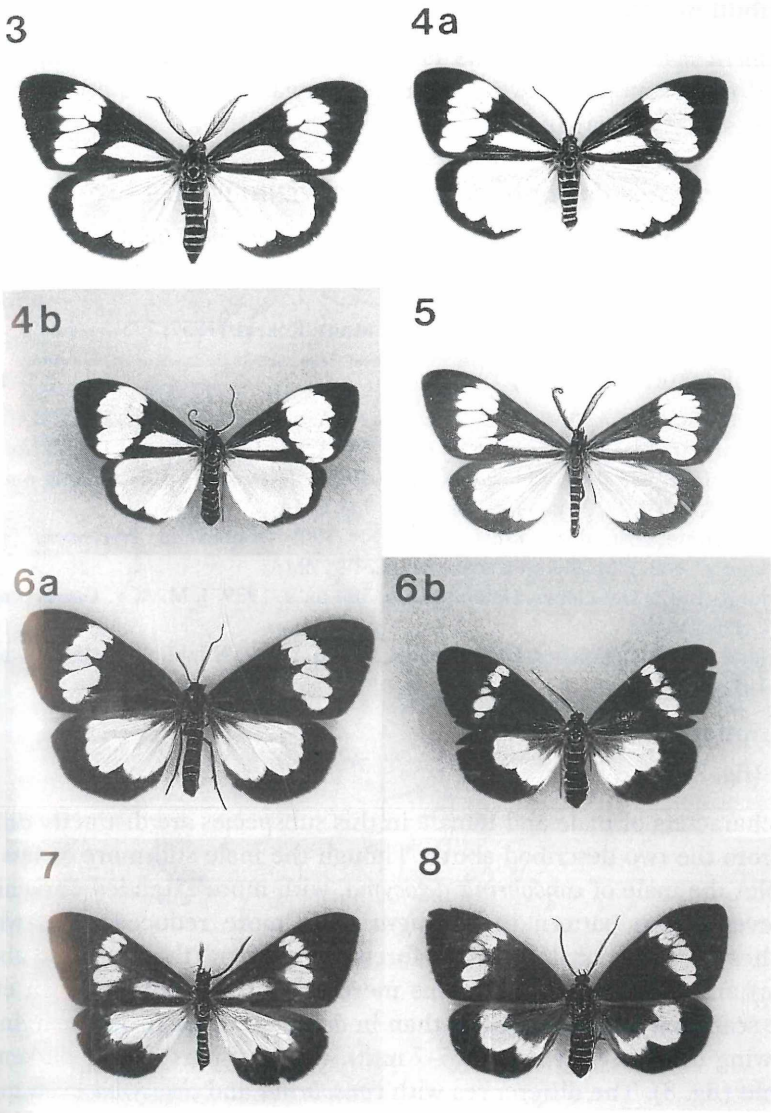

Figs. 3–8: *Nyctemera consobrina*. **Fig. 3:** *N. c. consobrina,* ♂ (Sulawesi Utara, Danau Moaat). **Fig. 4a:** *N. c. consobrina,* ♀ (Sulawesi Utara, Dumoga-Bone N.P.). **Fig. 4b:** *N. c. consobrina,* local form, ♀ (Sulawesi Utara, Gn. Muajat). **Fig. 5:** *N. c. delocyma,* ♂ (Sulawesi Tengah, Posso). **Fig. 6a:** *N. c. delocyma,* ♀ (Sulawesi barat daya, Todiambu, holotype f. *immaculata* ROEPKE). **Fig. 6b:** *N. c. delocyma,* local form, ♀ (Sulawesi barat daya, Malino). **Fig. 7:** *N. c. basinigra,* ♂ (Sulawesi Tenggara, Ulu-Kolaka). **Fig. 8:** *N. c. basinigra,* ♀ (Banggai Islands, Peleng, holotype).

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Distribution (fig. 9)

Nyctemera consobrina delocyma is widely distributed, and has been recorded from central Sulawesi (Sulawesi Tengah), southwestern Sulawesi (Sulawesi barat daya) and Flores.

Nyctemera consobrina basinigra Nieuwenhuis, 1948

Nyctemera basinigra Nieuwenhuis (1948: 143). Holotype ♀ (mislabeled as male), Noelion, Peling, Banggaai eil., 13. xii. 1936, Type, "*Nyctemera basinigra* Ns.", Nieuwenhuis det. ♂, (NNML).

Nyctemera consobrina basinigra Nieuwenhuis; Roepke (1957: 173).

Material examined (n = 7)

O. Celebes, Ulu-Kolaka 500 m, v. 1939, coll. J. M. A. van Groenendael, 1 ♂, ZMA;
O. Celebes, Ulu-Kolaka 600 m, v. 1939, coll. J. M. A. van Groenendael, 1 ♂, ZMA;
Sulawesi Timur, Ulu distr. Kolaka 500 m, v. 1939, "*Nyctemera* sp. (voorlopig onvindbaar)", coll. J. M. A. van Groenendael, 1 ♀, ZMA;
Sulawesi Timur, Ulu distr. Kolaka 500 m, v. 1939, "onbekend, *Nyctemera* (near) *lugens*", coll. J. M. A. van Groenendael, 1 ♀, ZMA;
Nederlands Indië, O. Celebes, Oeloe-Kolaka, 500 m, v. 1939, J. M. A. v. Groenendael, 2 ♂♂, ZMA;
Nederlands Indië, O. Celebes, Oeloe-Kolaka, 500 m, vi. 1939, J. M. A. v. Groenendael, 1 ♂, ZMA.

Description

Male (fig. 7).

The characters of male and female in this subspecies are distinctly different from the two described above. Though the male still more or less resembles the male of *consobrina delocyma,* with more extended darkening. However, white pattern in *basinigra* even more reduced, with white blotches of transversal band on forewing smaller (the broadest about 4 mm) and brown colour on veins more extended, resulting in an even more scattered transversal band than in *delocyma*. Dark brown margin on hindwing of male very broad (5-7 mm), its basal part hardly darkened. Female (fig. 8). The differences with *consobrina* and *delocyma* even more striking in the female. Without basal streak on forewing. Transversal band reduced to six small white blotches (the broadest being about 3 mm), and divided by rather broad brown veins. Margin of hindwing very broad (7-8 mm), sometimes almost reaching center of wing. Basal part with extremely extended grey brown darkening, filling up almost all the white Darkening on basal part forms a sharp angle on the bifurcation of vein 4

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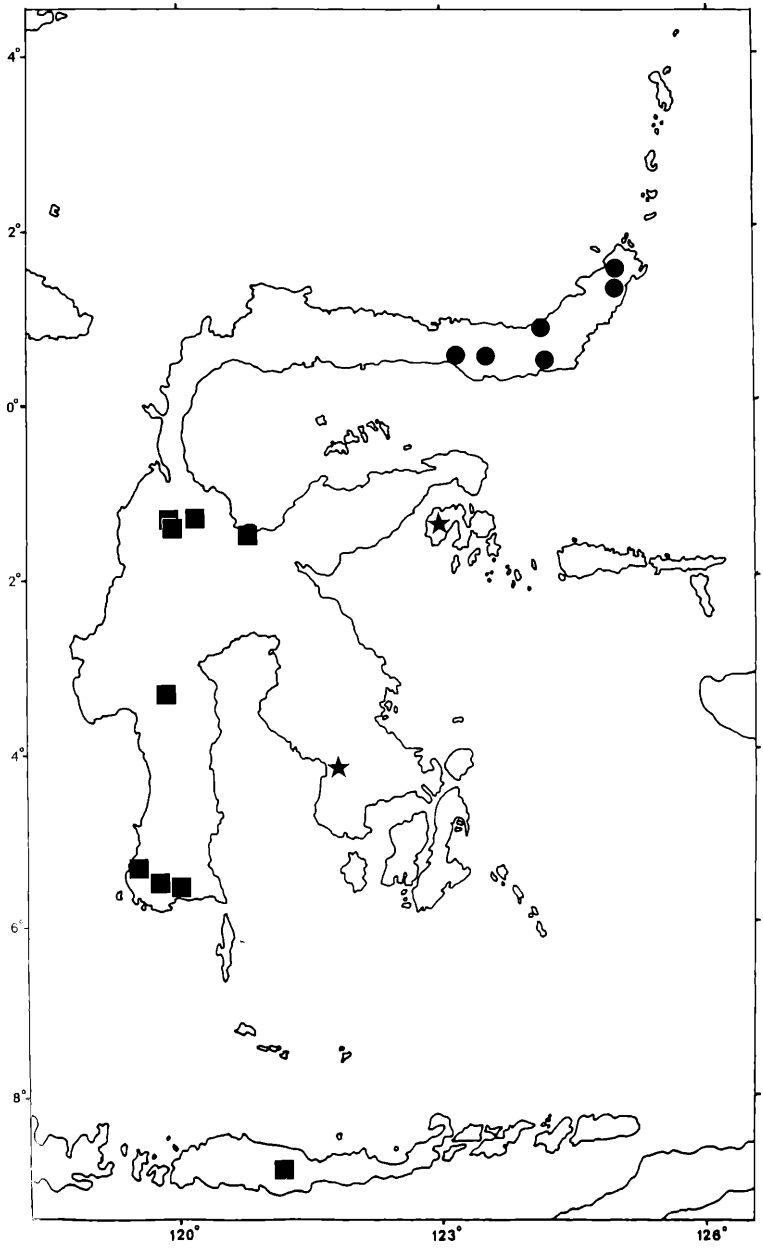

Fig. 9: Distribution of the subspecies of *Nyctemera consobrina*: ● *N. consobrina consobrina*; ■ *N. consobrina delocyma*, ★ *N. consobrina basinigra*.

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and 5. On costa and dorsum of hindwing, margin and dark base are connected. The narrow white area in hindwing sometimes interrupted by a marginal tooth on vein 2.

Male and female genitalia as described under *consobrina consobrina*. The boat-shaped signum in female genitalia sometimes with chitinous extension (fig. 2c, below).

Distribution (fig. 9)

Nyctemera consobrina basinigra is recorded from the south-eastern part of Sulawesi (Sulawesi Tenggara) and the Banggai Islands. The holotype comes from Peleng, the largest island of the Banggai-group. Seven other specimens come from district Kolaka in Sulawesi Tenggara.

Acknowledgements

I would like to thank Mr. W. Hogenes of the Zoological Museum in Amsterdam (ZMA), Dr. R. de Jong of the National Museum of Natural History (NNML) in Leiden and Dr. M. R. Honey of the Natural History Museum (BMNH) in London, for lending and allowing me to study collected material. I also like to thank Miss M. van Dam (Velp, Netherlands) for making the photographs (with exception of figs. 4b and 6b), Mr. H. van Mastrigt (Sentani, Irian Jaya) for the translation of the Indonesian abstract and last but not least Mr. W. Hogenes and Drs. A. J. de Boer (Amsterdam) for reading and commenting on the manuscript.

References

Bryk, F. (1937): Lepidopterorum Catalogus, Pars 82: Arctiidae, Subfam.: Callimorphinae et Nyctemerinae, 105 pp. - 's-Gravenhage (W. Junk).

Hopffer, C. (1874): Beitrag zur Lepidopteren-Fauna von Celebes. - Stettiner Entomol. Z. 35 (1-3): 17-47.

Kirby, W. F. (1892): A synonymic catalogue of Lepidoptera Heterocera (moths), vol. I, Sphinges and Bombyces, 951 pp. - London (Gurney & Jackson).

Nieuwenhuis, E. J. (1948): Lepidoptera van den Banggaai-Archipel II. - Tijdschr. Entomol. **89:** 139-148.

Pagenstecher, A. (1901): Über die Gattung *Nyctemera* Hübn. und Ihre Verwandten. - Beiträge zur Lepidopterenfauna des Malayischen Archipels **14:** 1-175.

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ROEPKE, W. (1954): Some new or little known Lepidoptera from Indonesia and New Guinea, I. - Tijdschr. Entomol. 97 (4): 257-262.

—— (1957): The genus *Nyctemera* HÜBNER, II. - Tijdschr. Entomol. **100** (2): 147-178.

ROTHSCHILD, W. (1920): Results of an Expedition to Korinchi Peak, Sumatra. - J. Fed. Malay States Mus. **8** (3): 107-139.

SEITZ, A. (1915): Die Gross-Schmetterlinge der Erde, 10. Band, 909 pp. - Stuttgart (A. Kernen).

SWINHOE, C. (1892): Catalogue of eastern and Australian Lepidoptera Heterocera, part I, Sphinges and Bombyces, 324 pp. - Oxford (Clarendon).

—— (1903): On the Genus *Deilemera*, HÜBNER. - Trans. Entomol. Soc. London, **1903**: 53-85.

—— (1917a): New Species of Indo-Malayan Lepidoptera. - Ann. Mag. Nat. Hist. (8) **19**: 409-416.

—— (1917b): New Indo-Malayan species of Lepidoptera. - Ann. Mag. Nat. Hist. (8) **20**: 157-166.

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